REMARKS

Claims 9 and 11-16 are cancelled and new claims 20 – 33 are pending in the case.

New claim 19 is supported by original claim 9. Support for the amount of acetylenic alcohol -- 0.005% and 0.03% -- can be found in the published application in paragraph [0022]. Support for the high removal rate can be found in paragraph [0018].

New claim 20 is supported by paragraph [0020] and paragraph [0021] in the published application.

New claim 21 is supported by the Examples and data in Table 3.

New claim 22 is supported by the Examples, which had about 0.004% of ammonium fluoride therein.

New claim 23 is supported by the Examples and paragraphs [0009] and [0053] in the published application.

New claim 24 is supported by paragraph [0025] in the published application.

New claim 25 is supported by paragraphs [0005] and [0027] in the published application.

New claim 26 is supported by the Examples and paragraph [0053] in the published application.

New claims 27-29 is supported by original claims 11-13.

New claim 30 is supported by original claim 15.

New claim 31 is supported by the specification as a whole including the examples.

REJECTIONS OVER 35 U.S.C. 112

The Examiner asserted that the specification did not support several statements added by amendment to the claims. The cancellation of those claims is believed to make those rejections moot. Applicants respectfully request that the rejections under 35 U.S.C. 112 be reconsidered and removed.

REJECTIONS OVER STREINZ/ MOEGGENBORG

The previous claims stood rejected as obvious over Streinz in view of Moeggenborg. Applicants respectfully traverse.

The Examiner has missed the main thrust of the invention. As stated in paragraph [0005] of the published application:

> In oxide CMP a slurry is used to planarize films comprised of oxide dielectric material (e.g., silicon dioxide). In shallow trench isolation (STI) CMP a slurry is used to planarize structures comprised of oxide dielectric material and silicon nitride. Furthermore, it is desired that the oxide CMP and STI CMP slurry compositions and associated methods afford planarized substrates characterized to have low defectivity levels, low haze levels, and low levels of scratching. (Emphasis added)

Oxide CMP is distinguished from metal CMP. As clearly stated in paragraph [0008] of the instant specification, "the use of various surfactants in metal CMP compositions as well as post-CMP cleaning compositions is known." Paragraph [0009] reinforces the fundamental difference between oxide CMP and metal CMP by stating:

> While the above compositions are useful in various respects, these prior art compositions (and their associated methods) are not suitable for use in oxide CMP of a substrate comprised of a dielectric oxide material (e.g., silicon dioxide) to afford a high removal rate of oxide during CMP processing while simultaneously affording low levels of defectivity, haze, and scratching...

Metal CMP formulations, including those of Streinz, contain a significant amount of oxidizers. Streinz teaches a polishing composition to remove titanium and tungsten (metals) from a substrate. Streinz's composition has an abrasive, a fluoride salt, optionally a surfactant, and periodic acid, where the surfactant can be can be anionic, cationic, nonionic, and/or amphoteric. *See* Streinz at column 8 lines 4-9, and at column 7 lines 59-61. Streinz focuses on p[olishing metals, and therefore this reference can not be said to make the instant claims obvious. But see Streinz at column 2 lines 63-65 where Streinz's composition can polish dielectric film.

Further, Streinz in column 3 lines 26-33 says:

> The chemical mechanical polishing slurry of this invention has been found to have a high titanium (Ti) polishing rate as well as a high tungsten (W) and titanium nitride (TiN) polishing rates. In addition, the chemical mechanical polishing slurry exhibits desirable **low** polishing rates towards the dielectric insulating layer. (Emphasis added)

Streinz does not polish oxide at a high rate as required by the claims. Generally, high rate oxide polishing is a rate greater than 2000 angstroms per minute, more typically at 3000 or more angstroms per minute. See generally U.S. Patents 6,689,692 or 6,491,843

or 6,350,393 for examples of high removal rates of silicon dioxide in oxide CMP. In contrast, Streinz emphasizes his compositions remove oxide at a low rate and his examples show oxide removal of between 35 and 181 angstroms per minute.

The Examiner used Streinz as a primary reference and supplied motivation and knowledge of using Surfynol 104 from Moegenburg. Moegenburg described oxide CMP compositions that have medium oxide removal rates – the rate of the Examples in Table 3 of Moegenburg show oxide removal rates between 1164 and 1237 angstroms per minute. Moegenburg mentions Surfynol 104, but only in an Example having 3% hydrogen peroxide and 0.1% or 0.02% Surfynol 104 (the text conflicts with the Table 4).

The combination of Streinz and Moegenburg will not provide an oxide composition capable of polishing oxide at a high rate. The combination will surely not result in a composition useful to polish oxide at a rate of 3307 angstroms per minute or greater as recited in dependent claim 21. Further with respect to claims 31 to 33, both of the references teach compositions having an oxidizing agent.

REJECTIONS OVER PASQUALONI/ MOEGGENBORG

The previous claims stood rejected as obvious over Pasqualone in view of Moeggenborg. Applicants respectfully traverse. Claim 19 recites a high oxide removal rate. The combination of Pasqualone and Moegenburg will not provide an oxide composition capable of polishing oxide at a high rate. Pasqualone has compositions useful for removing oxide at less than 1400 angstroms per minute (see Figure 2 of Pasqualone). Moegenburg described oxide CMP compositions that have medium oxide removal rates – the rate of the Examples in Table 3 of Moegenburg show oxide removal rates between 1164 and 1237 angstroms per minute. The combination will surely not result in a composition useful to polish oxide at a high rate, most assuredly at a rate of 3307 angstroms per minute or greater as recited in dependent claim 21. Further with respect to claims 31 to 33, both of the references teach compositions having an oxidizer.

REJECTIONS OVER MISRA/ MOEGGENBORG

The previous claims stood rejected as obvious over Misra in view of Moeggenborg. Applicants respectfully traverse. Claim 19 recites a high oxide removal rate. The combination of Misra and Moegenburg will not provide an oxide composition capable of polishing oxide at a high rate. There is no teaching of oxide removal rates in

Misra, and Moegenburg described oxide CMP compositions that have medium oxide removal rates – the rate of the Examples in Table 3 of Moegenburg show oxide removal rates between 1164 and 1237 angstroms per minute. The combination will surely not result in a composition useful to polish oxide at a high rate, most assuredly at a rate of 3307 angstroms per minute or more as recited in dependent claim 21. Further with respect to claims 31 to 33, both of the references teach compositions having an oxidizer.

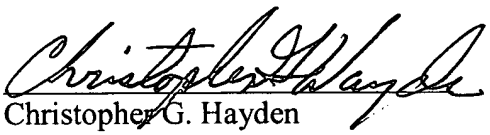
SUMMARY

Applicants believe that all claims currently in prosecution are in condition for allowance over the cited art and respectfully request reconsideration and issuance of a Notice of Allowance by the examiner at his earliest convenience. Should the Examiner have any further issues, the courtesy of a telephone call to the undersigned Chris Hayden at 703 837 0999 is requested.

Should fees be necessary for any reason, kindly use Hayden Stone PLLC Deposit Account No. 50-3975.

Respectfully submitted,

January 8, 2007



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